

~~Ref 63.~~ A method for extending the life of Flash EEPROM
memory in a Flash EEPROM system, comprising the steps of:

temporarily storing data files from a host system intended for the Flash EEPROM memory in a cache memory, said cache memory able to undergo significantly more write/erase cycles than the Flash EEPROM memory;

writing data files into the cache memory instead of the Flash EEPROM memory in response to a write request from the host system;

determining the time since each data file was last written into said cache memory; and

moving first a data file having the longest time since last written first from the cache memory to the Flash EEPROM memory when additional space for new data files is required in the cache memory, thereby substantially reducing the number of actual writes and associated stress to the Flash EEPROM memory.

64. A method for extending the life of Flash EEPROM memory in a Flash EEPROM system, comprising the steps of:

temporarily storing data files from a host system intended for the Flash EEPROM memory in a cache memory, said cache memory able to undergo significantly more write/erase cycles than the Flash EEPROM memory;

writing data files into the cache memory instead of the Flash EEPROM memory in response to a write request from the host system;

storing the identity of data files and the time each data file was last written into said cache memory in a tag memory; and

by reference to the tag memory, moving data file having the longest time since last written first from the cache memory to the Flash EEPROM memory when additional space for new data files is required in the cache memory, thereby substantially reducing the number of actual writes and associated stress to the Flash EEPROM memory.

65. A method for extending the life of Flash EEPROM memory in a Flash EEPROM system, comprising the steps of:

temporarily storing data files from a host system intended for the Flash EEPROM memory in a cache memory, said cache memory able to undergo significantly more write/erase cycles than the Flash EEPROM memory;

in response to a write request from the host system, writing a data file either into the Flash EEPROM memory when a previous copy of said data file is not present in the cache memory, or into the cache memory when a previous copy of said data file is present in the cache memory; and

moving data file having the longest time since last written first from the cache memory to the Flash EEPROM memory when additional space for new data files is required in the cache memory, thereby substantially reducing the number of actual writes and associated stress to the Flash EEPROM memory.

66. A method for extending the life of Flash EEprom memory in a Flash EEprom system, comprising the steps of:

temporarily storing data files from a host system intended for the Flash EEPROM memory in a cache memory, said cache memory able to undergo significantly more write/erase cycles than the Flash EEPROM memory;

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in response to a write request from the host system, writing a data file either into the Flash EEeprom memory when said data file is last written after a predetermined period of time, or into the cache memory when said data file is last written within the predetermined period of time; and

moving data file having the longest time since last written first from the cache memory to the Flash EEeprom memory when additional space for new data files is required in the cache memory, thereby substantially reducing the number of actual writes and associated stress to the Flash EEeprom memory.

67. A method for extending the life of Flash EEeprom memory in a Flash EEeprom system, comprising the steps of:

temporarily storing data files from a host system intended for the Flash EEeprom memory in a cache memory, said cache memory able to undergo significantly more write/erase cycles than the Flash EEeprom memory;

storing the identity of data files and the time each data file was last written into said cache memory in a tag memory;

in response to a write request from the host system, writing a data file into the Flash EEeprom memory when the data file is not identified in the tag memory, or into the cache memory when the data file is identified in the tag memory; and

by reference to the tag memory, moving data file having the longest time since last written first from the cache memory to the Flash EEeprom memory when additional space for new data files is required in the cache memory, thereby substantially reducing the number of actual writes and associated stress to the Flash EEeprom memory.--